

Author Index

- Ai, S. H., 141
 Arsenault, R. J., 285, 291
- Baskes, M. I., 289
 Bassim, M. N., 81, 241
 Beniska, J., 63
 Berglin, L., 87
 Bowen, H. K., 213
 Brown, L. M., 281
 Buck, O., 117
- Chang, Y. J., 81, 241
 Chen, D. L., 141
 Chrysochoos, A., 25
- Dybiec, H., 97
- Esterling, D. M., 291
 Exner, H. E., 121
- Fortes, M. A., 1
 Fujimura, N., 153
- Gabb, T. P., 189
 Gao, Y.-Q., 19
 Gayda, J., 189
 Gottstein, G., 165
 Gruner, H., 87, 105
 Gudmundsson, B., 73, 87, 105,
 181
- Hay, R. A., 213
 Hudec, I., 63
 Hunderi, O., 33
- Ito, T., 153
 Jacobson, B. E., 73, 87, 105, 181
 Jiang, X. X., 141
- Karunanity, S., 221
 Kassner, M. E., 45
 Kim, W., 165
- Laird II, G., L1
 L'Estrade, L., 87
 Langer, E. W., 247
 Liu, C. Y., 265
 Liu, X., 19
 Lo, Y.-B., 19
 Lynch, S. P., 203
- Macmillan, N. H., L1
 Martin, G., 25
 McQueen, H. J., 45
 Miner, R. V., 189
 Miranda, R. M., 1
 Moffat, W. C., 213
 Murakami, K., 265, 271
 Myshlyaev, M. M., 45
- Nagpal, P., 165
 Nakayama, Y., 153
 Nakazono, S., 271
 Nishida, N., 153
- Okamoto, T., 265, 271
 Owen, C. V., 117
- Pawłowski, A., 9
 Pedersen, O. B., 281
- Raphael, J. L., 227
 Rdzawski, Z., 97
 Richert, M., 97
 Rolinski, E., 37
 Rosner, P., 63
 Ryum, N., 33
- Sadananda, K., 131
 Saetre, T. O., 33
 Sain, M. M., 63
 Sanchez, J. M., 159
 Schmitt, J.-H., 227
 Seigle, L. L., 253
 Shahinian, P., 131
 Shih, C. H., 141
 Shume, A. J., 81, 241
 Sigl, L. S., 121
 Stobbs, W. M., 281
- Taya, M., 285
 Tso, N. C., 159
- Van Houtte, P., 227
- Wang, T. H., 253
 Wang, W., 19
 Wang, Z. G., 141
 Welsch, G., 189
 Withers, P. J., 281
- Yang, X.-Q., 19
- Zenkert, D., 233
 Zhuang, L. Z., 247
 Zięba, P., 9

Subject Index

- Age-hardening**
 flow stress and structure of age-hardened Cu-0.4wt.%Cr alloy after large deformation, 97
- Alloys**
 creep and fatigue crack growth behavior of some cast nickel-base alloys, 131
 flow stress and structure of age-hardened Cu-0.4wt.%Cr alloy after large deformation, 97
 internal and external shrinkages in unidirectionally solidified Al-4.5wt.%Cu alloy, 265
 low temperature hydrogen effects on the strength and ductility of Nb-Ta alloys, 117
 mechanism of early stages of discontinuous dissolution in AlZn alloys, 9
 self-annealing of rapidly solidified deposit layers of Fe-C-Si alloys by flame spraying, 271
 solid-metal-induced embrittlement of aluminium alloys and other materials, 203
 surface properties of plasma-nitrided titanium alloys, 37
 the influence of substrate temperature on the microstructure and hardness of vacuum-plasma-sprayed Co-Ni-Cr-Al-Si-Zn-Y and Co-Ni-Cr-Al-Y alloys, 105
 the kinetics of pack aluminization of iron from Al-Fe alloy packs, 253
- Aluminium**
 comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 281
 effects of texture in the titanium layer on solid state reactions for Al/Ti/Si and Al/TiN/Ti/Si systems, 153
 further comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 285
 internal and external shrinkages in unidirectionally solidified Al-4.5wt.%Cu alloy, 265
 large-strain torsional deformation in aluminum at elevated temperatures, 45
 mechanism of early stages of discontinuous dissolution in AlZn alloys, 9
 microstructure and erosion resistance of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y/Al₂O₃ composite coatings, 87
 recrystallization and texture in boron-doped Ni₃Al, 165
 reinforcement of carbon fibre-alumina composite interfaces, 221
 sintering behavior of uniform-sized α -Al₂O₃ powder, 213
 solid-metal-induced embrittlement of aluminium alloys and other materials, 203
 the effect of silicon and zirconium additions on the microstructure of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 73
 the influence of substrate temperature on the microstructure and hardness of vacuum-plasma-sprayed Co-Ni-Cr-Al-Si-Zn-Y and Co-Ni-Cr-Al-Y alloys, 105
 the kinetics of pack aluminization of iron from Al-Fe alloy packs, 253
 the orientation relationship between γ (f.c.c.) and β -NiAl in vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 181
- thermodynamic modeling of site occupation in the γ' phase of the Ni-Al-Hf system, 159
- Annealing**
 self-annealing of rapidly solidified deposit layers of Fe-C-Si alloys by flame spraying, 271
- Austenite**
 austenite grain growth, microstructure and hardness in the heat-affected zone of a 2.25Cr-1Mo steel, 1
- Bauschinger effect**
 comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 281
 further comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 285
- Boron**
 recrystallization and texture in boron-doped Ni₃Al, 165
- Carbon**
 comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 281
 further comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 285
 reinforcement of carbon fibre-alumina composite interfaces, 221
 self-annealing of rapidly solidified deposit layers of Fe-C-Si alloys by flame spraying, 271
- Chromium**
 austenite grain growth, microstructure and hardness in the heat-affected zone of a 2.25Cr-1Mo steel, 1
 determination of cyclic strain-hardening behaviour produced during fatigue crack growth in cast Co-Cr-Mo alloy used for surgical implants, 247
 flow stress and structure of age-hardened Cu-0.4wt.%Cr alloy after large deformation, 97
 microstructure and erosion resistance of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y/Al₂O₃ composite coatings, 87
 the effect of silicon and zirconium additions on the microstructure of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 73
 the influence of substrate temperature on the microstructure and hardness of vacuum-plasma-sprayed Co-Ni-Cr-Al-Si-Zn-Y and Co-Ni-Cr-Al-Y alloys, 105
 the orientation relationship between γ (f.c.c.) and β -NiAl in vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 181
- Cobalt**
 determination of cyclic strain-hardening behaviour produced during fatigue crack growth in cast Co-Cr-Mo alloy used for surgical implants, 247
 microstructure and erosion resistance of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y/Al₂O₃ composite coatings, 87
 the effect of silicon and zirconium additions on the microstructure of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 73

- the influence of substrate temperature on the microstructure and hardness of vacuum-plasma-sprayed Co-Ni-Cr-Al-Si-Zn-Y and Co-Ni-Cr-Al-Y alloys, 105
- the orientation relationship between γ (f.c.c.) and β -NiAl in vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 181
- Composites**
- comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 281
 - further comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 285
 - microstructure and erosion resistance of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y/ Al_2O_3 composite coatings, 87
 - reinforcement of carbon fibre-alumina composite interfaces, 221
 - the flow stress and hardness of metal-reinforced brittle composites, 121
- Copper**
- a study of the effect of initial grain size and strain rate on dislocation structures in copper, 241
 - crystallization behavior of $\text{Ti}_{66.6}\text{Ni}_{13.6}\text{Cu}_{12.5}\text{Ge}_{7.3}$ glass, 19
 - flow stress and structure of age-hardened Cu-0.4wt.%Cr alloy after large deformation, 97
 - fracture topography of commercial copper, 81
 - internal and external shrinkages in unidirectionally solidified Al-4.5wt.%Cu alloy, 265
- Crack growth**
- creep and fatigue crack growth behavior of some cast nickel-base alloys, 131
 - determination of cyclic strain-hardening behaviour produced during fatigue crack growth in cast Co-Cr-Mo alloy used for surgical implants, 247
 - the dependence of near-threshold fatigue crack growth on microstructure and environment in dual-phase steels, 141
- Creep**
- creep and fatigue crack growth behavior of some cast nickel-base alloys, 131
- Crystallization**
- crystallization behavior of $\text{Ti}_{66.6}\text{Ni}_{13.6}\text{Cu}_{12.5}\text{Ge}_{7.3}$ glass, 19
- Deformation**
- flow stress and structure of age-hardened Cu-0.4wt.%Cr alloy after large deformation, 97
 - large-strain torsional deformation in aluminum at elevated temperatures, 45
 - the low cycle fatigue deformation response of a single-crystal superalloy at 650 °C, 189
- Dislocation**
- a study of the effect of initial grain size and strain rate on dislocation structures in copper, 241
 - an atomistic study of the relationship between stacking fault energy and partial dislocation splitting, 289
 - comments on "An atomistic study of the relationship between stacking fault energy and partial dislocation splitting", 291
- Dissolution**
- mechanism of early stages of discontinuous dissolution in Al-Zn alloys, 9
- Ductility**
- low temperature hydrogen effects on the strength and ductility of Nb-Ta alloys, 117
- Embrittlement**
- solid-metal-induced embrittlement of aluminium alloys and other materials, 203
- Erosion**
- microstructure and erosion resistance of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y/ Al_2O_3 composite coatings, 87
- Fatigue**
- creep and fatigue crack growth behavior of some cast nickel-base alloys, 131
 - determination of cyclic strain-hardening behaviour produced during fatigue crack growth in cast Co-Cr-Mo alloy used for surgical implants, 247
 - the dependence of near-threshold fatigue crack growth on microstructure and environment in dual-phase steels, 141
 - the low cycle fatigue deformation response of a single-crystal superalloy at 650 °C, 189
- Fracture**
- fracture topography of commercial copper, 81
 - poly(vinyl chloride) sandwich core materials: fracture behaviour under mode II loading and mixed-mode conditions, 233
- Germanium**
- crystallization behavior of $\text{Ti}_{66.6}\text{Ni}_{13.6}\text{Cu}_{12.5}\text{Ge}_{7.3}$ glass, 19
- Grain growth**
- austenite grain growth, microstructure and hardness in the heat-affected zone of a 2.25Cr-1Mo steel, 1
 - the effect of grain boundary edges on grain growth and grain growth stagnation, 33
- Hafnium**
- thermodynamic modeling of site occupation in the γ' phase of the Ni-Al-Hf system, 159
- Hardness**
- austenite grain growth, microstructure and hardness in the heat-affected zone of a 2.25Cr-1Mo steel, 1
 - the flow stress and hardness of metal-reinforced brittle composites, 121
- Heterogeneity**
- contribution to heterogeneity in elasto-plastic blends, 63
- Hydrogen**
- low temperature hydrogen effects on the strength and ductility of Nb-Ta alloys, 117
- Iron**
- self-annealing of rapidly solidified deposit layers of Fe-C-Si alloys by flame spraying, 271
 - the kinetics of pack aluminization of iron from Al-Fe alloy packs, 253
- Microstructure**
- austenite grain growth, microstructure and hardness in the heat-affected zone of a 2.25Cr-1Mo steel, 1
 - microstructure and erosion resistance of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y/ Al_2O_3 composite coatings, 87
 - the dependence of near-threshold fatigue crack growth on microstructure and environment in dual-phase steels, 141

- the influence of substrate temperature on the microstructure and hardness of vacuum-plasma-sprayed Co-Ni-Cr-Al-Si-Zn-Y and Co-Ni-Cr-Al-Y alloys, 105
- Molybdenum**
- austenite grain growth, microstructure and hardness in the heat-affected zone of a 2.25Cr-1Mo steel, 1
 - determination of cyclic strain-hardening behaviour produced during fatigue crack growth in cast Co-Cr-Mo alloy used for surgical implants, 247
- Nickel**
- creep and fatigue crack growth behavior of some cast nickel-base alloys, 131
 - crystallization behavior of $Ti_{66.6}Ni_{13.6}Cu_{12.5}Ge_{7.3}$ glass, 19
 - microstructure and erosion resistance of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y/ Al_2O_3 composite coatings, 87
 - recrystallization and texture in boron-doped Ni_3Al , 165
 - the effect of silicon and zirconium additions on the microstructure of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 73
 - the influence of substrate temperature on the microstructure and hardness of vacuum-plasma-sprayed Co-Ni-Cr-Al-Si-Zn-Y and Co-Ni-Cr-Al-Y alloys, 105
 - the orientation relationship between γ (f.c.c.) and β -NiAl in vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 181
 - thermodynamic modeling of site occupation in the γ' phase of the Ni-Al-Hf system, 159
- Niobium**
- low temperature hydrogen effects on the strength and ductility of Nb-Ta alloys, 117
- Nitrogen**
- effects of texture in the titanium layer on solid state reactions for Al/Ti/Si and Al/TiN/Ti/Si systems, 153
 - surface properties of plasma-nitrided titanium alloys, 37
- Oxygen**
- flow stress and structure of age-hardened Cu-0.4wt.%Cr alloy after large deformation, 97
 - reinforcement of carbon fibre-alumina composite interfaces, 221
- Poly(vinyl chloride)**
- poly(vinyl chloride) sandwich core materials: fracture behaviour under mode II loading and mixed-mode conditions, 233
- Recrystallization**
- recrystallization and texture in boron-doped Ni_3Al , 165
- Reinforcement**
- reinforcement of carbon fibre-alumina composite interfaces, 221
 - the flow stress and hardness of metal-reinforced brittle composites, 121
- Shrinkages**
- internal and external shrinkages in unidirectionally solidified Al-4.5wt.%Cu alloy, 265
- Silicon**
- comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 281
 - effects of texture in the titanium layer on solid state reactions for Al/Ti/Si and Al/TiN/Ti/Si systems, 153
- Further comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 285
- self-annealing of rapidly solidified deposit layers of Fe-C-Si alloys by flame spraying, 271
- the effect of silicon and zirconium additions on the microstructure of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 73
- the influence of substrate temperature on the microstructure and hardness of vacuum-plasma-sprayed Co-Ni-Cr-Al-Si-Zn-Y and Co-Ni-Cr-Al-Y alloys, 105
- Single crystals**
- the low cycle fatigue deformation response of a single-crystal superalloy at 650 °C, 189
- Sintering**
- sintering behavior of uniform-sized α - Al_2O_3 powder, 213
- Stacking faults**
- an atomistic study of the relationship between stacking fault energy and partial dislocation splitting, 289
 - comments on "An atomistic study of the relationship between stacking fault energy and partial dislocation splitting", 291
- Strain**
- a study of the effect of initial grain size and strain rate on dislocation structures in copper, 241
 - large-strain torsional deformation in aluminum at elevated temperatures, 45
- Strain-hardening**
- determination of cyclic strain-hardening behaviour produced during fatigue crack growth in cast Co-Cr-Mo alloy used for surgical implants, 247
- Strength differential**
- texture development and strength differential effect in textured b.c.c. metals with glide asymmetry, 227
 - comments on "The Strength Differential and Bauschinger Effects in SiC-al Composites", 281
 - further comments on "The Strength Differential and Bauschinger Effects in SiC-Al Composites", 285
- Stress**
- flow stress and structure of age-hardened Cu-0.4wt.%Cr alloy after large deformation, 97
 - the flow stress and hardness of metal-reinforced brittle composites, 121
- Tantalum**
- low temperature hydrogen effects on the strength and ductility of Nb-Ta alloys, 117
- Tensile testing**
- tensile test microcalorimetry for thermomechanical behaviour law analysis, 25
- Texture**
- effects of texture in the titanium layer on solid state reactions for Al/Ti/Si and Al/TiN/Ti/Si systems, 153
 - recrystallization and texture in boron-doped Ni_3Al , 165
 - texture development and strength differential effect in textured b.c.c. metals with glide asymmetry, 227
- Thermodynamic modeling**
- thermodynamic modeling of site occupation in the γ' phase of the Ni-Al-Hf system, 159
- Titanium**
- crystallization behavior of $Ti_{66.6}Ni_{13.6}Cu_{12.5}Ge_{7.3}$ glass, 19
 - effects of texture in the titanium layer on solid state reactions for Al/Ti/Si and Al/TiN/Ti/Si systems, 153
 - surface properties of plasma-nitrided titanium alloys, 37

Yttrium

- microstructure and erosion resistance of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y/Al₂O₃ composite coatings, 87
 the effect of silicon and zirconium additions on the microstructure of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 73
 the influence of substrate temperature on the microstructure and hardness of vacuum-plasma-sprayed Co-Ni-Cr-Al-Si-Zn-Y and Co-Ni-Cr-Al-Y alloys, 105
 the orientation relationship between γ (f.c.c.) and β -NiAl in vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 181

Zinc

- mechanism of early stages of discontinuous dissolution in AlZn alloys, 9

the influence of substrate temperature on the microstructure and hardness of vacuum-plasma-sprayed Co-Ni-Cr-Al-Si-Zn-Y and Co-Ni-Cr-Al-Y alloys, 105

Zirconium

- the effect of silicon and zirconium additions on the microstructure of vacuum-plasma-sprayed Co-Ni-Cr-Al-Y coatings, 73

CONTENTS (*continued*)

BOOK REVIEWS	293
CONFERENCE CALENDAR	301
LETTER	
An approximate description of the temporal evolution of a Hertzian impact	L1
N. H. Macmillan and G. Laird II (Albany, OR, U.S.A.)	
AUTHOR INDEX	307
SUBJECT INDEX	309



